Acquisition Reform Update

By ARO staff
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In This Issue

UFO exemplifies acquisition reform

Since its inception, the Ultra High Frequency Follow-On (UFO) communications satellite program has been a dynamic example of acquisition reform. The objective of the UFO program is to replace and upgrade the present constellation of Fleet Satellite (FLTSAT) and Leased Satellite (LEASAT) spacecraft in geosynchronous orbit, so that reliable global communications is available to both shore-based and mobile users, while minimizing the cost to the government. In addition, enhanced antijam tracking and communications, broadcast, and fleet interconnectivity will be provided via EHF, SHF, and UHF, along with wideband Global Broadcast Service (GBS).

Upon completion, the constellation will consist of eight operational UFO satellites and one on-orbit spare. Four pairs of satellites will orbit at longitudes that provide coverage over the CONUS, Atlantic, Pacific, and Indian Ocean areas. The Air Force Satellite Control Network (AFSCN) and the Navy Satellite Control Stations (NSCS) will provide telemetry, tracking, and command (TT&C) coverage during various mission phases.

The Navy Center for Cost Analysis (NCA) Independent Cost Estimate (ICE) determined that procuring a satellite system would be approximately 14% less expensive when compared to historical lease costs. Therefore the Acquisition

Strategy was written to reflect a purchased system at a firm fixed price minimizing the Government's financial risk, with launches being conducted on the cheapest vehicle by an operational target of December 1991. Additionally, a Program Endorsement Memo delineated a reduced set of required program documentation, which was used as an addendum to the Acquisition Strategy, thereby minimizing the administrative delays in getting the program started at an appropriate milestone. However, it was still necessary for the Navy to develop a Test and Evaluation Master Plan (TEMP), a Program Baseline, as well as providing an Independent Cost Analysis, a Manpower Estimate Report, and an Acquisition Strategy to complete milestone requirements.

The UFO program entered the acquisition system as a Milestone III program and was designated as a major system acquisition due to urgent DoD requirements as specified in MJCS 48–87. The Navy intended to capitalize on private industry's innovation and experience in the technical and business aspects of communication satellites. A tailored acquisition strategy was approved by the Navy Program Decision Meeting (NPDM) to: satisfy well established requirements of MJCS 48–87 through demonstrated operational effectiveness and suitability; repackage modern industrial technology to minimize Government cost and risk with a reasonableproduction and deployment schedule; and through full and open competition, procure from mature corporations having extensive experience in providing UHF satellite communications and launch services, with contractual orbital performance incentives.

This strategy resulted in a model firm fixed price contract with Hughes Aircraft Corporation, and has yielded a three block program that easily incorporates emergent needs. Block I involves the first three satellites and meets the fundamental needs of providing UHF communications. Block II provides an EHF capability to the end-user with a minimal cost increase, and Block III takes the last three satellites that have not been launched and adds a GBS capability, thus bringing the mobile user state-of-the-art communications.

The first Defense Acquisition Board for the UFO program was in June 1988. This DAB considered UFO's two year development in meeting Program Budget Decision No. 123A and MJCS 48–87. PBD No. 123A had three major points that the DAB reviewed to pass a Milestone IIIA decision: (1) that the UFO program would be a non-development procurement with Weapons Procurement, Navy funds reflecting both National and DoD space policies which required streamlining the design and acquisition process through the use of commercial space technologies and systems; (2) that the Navy would be the acquisition executive; and, (3) a firm-fixed-price contract.

Additionally, the UFO program was to pioneer the use of innovative acquisition ideas such as performance based contracting; assigning responsibility for total system procurement including launch to the prime contractor (commercial launch services are provided by a subcontractor);

devising and incorporating multi-year contractual terms, using a firm-fixed-price contract; provisions for acceptance on-orbit; warranties for performance on orbit, and; liquidated damages for late delivery. This resulted in over $350 million in savings and satellites delivered to the warfighter on schedule.

The UFO program experienced several acquisition reforms between Milestone IIIA and IIIB approval. The Navy was able to avoid prototype testing based on engineering analysis done on the commercial satellite bus. It was exempt from the Contract Award Report (CAR) and Congressional Data Sheets (CDS) by DoD Instruction 7110.1 thereby eliminating two burdensome requirements. With the addition of the NPDM, changes to the program were expeditiously made, thereby incorporating feasibility studies such as the addition of an EHF capability and elimination of Space Transportation System (Space Shuttle) compatibility into the satellite1s design without DAB review. Additionally, changes to mission requirements have been made with minimal launch impact. The second and third satellite were deployed earlier than originally scheduled. Beginning with F–4 the satellites received a payload addition with EHF capability and F–8 through F–10 are scheduled to receive a tertiary payload providing GBS. A significant upgrade occurred beginning with F–7, which doubled the EHF capacity in an accelerated two year effort. These program changes are significant, but through the application of acquisition streamlining the impact has been minimized in achieving desired operational deployment times. Cost increases to the program were also evaluated and determined reasonable without impacting program development. This streamlined C3I Committee Review and Cost Analysis and Improvement Group (CAIG) approval that eventually expedited Milestone IIIB approval. In fact, the UFO contract was cited by Congress as an exceptional value and as a model for future satellite programs according to the Assistant Secretary of the Navy (Research, Development and Acquisition).

In 1995, an Integrated Product Team (IPT) was formed to evaluate the feasibility of adding wideband data GBS technology to the UFO payload. This team conducted a market survey and price analysis that determined it was economically practical to add the GBS payload to the last three UFO satellites with minimal delay in launch schedules. Additionally, it was tasked with developing programmatic, contractual, technical, and operational documentation for a Milestone III Navy Program Decision Meeting. This application of innovative commercial technology to an ongoing procurement is a perfect example of taking the warfighter1s requirements and applying acquisition reform.

Additionally, the PEO–CS tasked a Tiger Team to stringently review all the proposed specifications and standards. Consequently those redundant or unnecessary specifications and standards were eliminated. The Contract Data Requirements List was tailored to suit the needs of a modern communications satellite program. Another Tiger Team conducted a risk assessment of each stage of the UFO program. The end result was an administratively streamlined

program that applied the fundamental principles of acquisition reform with identified risks, which have been further reduced through quality team building.

A dynamic satellite operational trainer was procured with commercial off-the-shelf (COTS) technology. The prime contractor had developed a PC based satellite simulator to facilitate factory testing. Modifications were made to the existing software combined with a hardware interface unit for connectivity to the Air Force1s mission control terminals. The COTS strategy satisfied existing requirements one to two years ahead of proposed 3conventional2 strategies and cost significantly less.

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The UFO program has suffered some set backs. The launch of the first satellite was less than nominal and resulted in the loss of the first satellite. However, due to the way the warranty in the fixed price contract was written, the Navy did not lose significant money on this failure. The Navy received an 80% refund for the satellite cost and 100% for the launch. This savings was applied to the procurement of a tenth satellite, thus completing the constellation and overcoming this early failure. Since then, F–2 through F–6 launches have been extremely successful and the constellation has been determined as operationally effective and suitable. Navy is optimistic on the success of future launches, due to the experienced Government and contractor Integrated Product Team.

The UFO program has applied a strategy based on streamlining and tailoring the acquisition process by focusing on accountability, eliminating management layers, and using a minimum cost approach to meet the hard core requirements of the warfighter. This has been accomplished by the use of a small program management office, IPTs, Tiger Teams and Team Building concepts. The Program Management Office only has 15 military and civilian personnel assigned. This small cadre of acquisition professionals and engineers had as its goal to intelligently apply the acquisition process in order to quickly and economically procure a UFO satellite system. This goal coupled with guidance from the Program Executive Officer for Space, Communications and Sensors (PEO–SCS) resulted in a model satellite procurement.

POC for further information is CAPT Jim Loiselle, Program Manager, Communication Satellite Programs, (703) 602–2879.

Survey data stimulates thought/action

Principals throughout the Department of Navy acquisition system are embracing and directing implementation of good ideas that bubbled up from

Acquisition Reform Acceleration Day on 31 May. Over 13,000 ideas and thoughts have been distilled from survey instruments used in conjunction with the stand down on 31 May.

At a special NARSOC held on October 4, ASN(RDA) challenged his Navy-Marine Corps acquisition team to utilize the plethora of information. 3Our people are our greatest resource,2 Mr. Douglass stated. "This data offers critical insights and opportunities from our people for improving our acquisition system. We need to mine these nuggets and harvest the gold!" That harvest is already underway throughout organizational, functional and ad hoc groups. ASN(RDA) will provide a status report at the DOD PEO Offsite the end of October.

The 13,000 ideas come from both an organization survey instrument originating from the Defense Acquisition University and an individual survey which was prepared by the DON Acquisition Reform Training Working Group (ARTWG). Results of the organization survey were provided in the last AR Update. The individual survey instrument asked five questions:

Q1. In the last two years, how much improvement have you seen in the acquisition process? A five-point Likert Preference Scale was used with "1" meaning NONE and "5" meaning A LOT. Response was forced, with no place to indicate "I don1t know" or "No opinion." 89.6% of the Headquarters organization (inside beltway) and 82.4% of the Field organization agreed that there has been improvement in the acquisition process.

Q2. From your personal experience, how much are teams improving the acquisition process? The same scale was used for Q2 as for Q1. 89.5% of the Headquarters organization and 80.8% of the Field organization agreed that teams are improving the acquisition process.

In each of these questions, perception of improvement in the Field organization is lagging behind perception of improvement in the Headquarters organization. However, each response group assumes the shape of a normal curve with standard deviations close to one, and the modes and medians for each response group fall at the mid-point of the scale.

Q3. Do you feel you have management support and encouragement to take prudent risks to improve acquisition performance? 82.6% of the Headquarters organization and 58.7% of the Field organization answered "yes." This positive response demonstrates strong agreement in the Headquarters organization and agreement in the Field organization that there is management support and encouragement to take prudent risks to improve acquisition performance. This issue is being addressed in a Strategic Plan Working Group under ASN(RDA) Strategic Plan Workforce Goal and is an initiative in the DON Acquisition Reform Management Action Plan.

Q4. What do you see as the major barrier in improving the acquisition

process? The top barrier identified (16.5% of responses) dealt with resistance to change, followed by Policy, Legislation and Regulations (13.6%) and Education and Training (8.3%). Other barriers included Funding Issues, Management, Contracting Process, Acquisition Processes, Manpower Issues, Government and Congress, Amount of Red Tape, Teams, Communications, Time, Organizational Politics and Empowerment.

Q5. Name one new idea that would improve the DON acquisition process in your area of work? There were 5,450 recommendations for change. The top area (11.1%) for recommendation for change is Education and Training, followed by Contracting Process (10.3%) and Credit Card Purchases (7.1%). Other recommendations are in the areas of Acquisition Processes, Information Technology, Manpower Issues, Empowerment, Funding Issues, Teams, Policy, Legislation and Regulations, Government, and Communications.

The tentative date for a second DOD-wide stand-down to focus on Acquisition Reform is March 19, 1997. As with the former stand-down, the March 19 event will be coordinated through the ARTWG utilizing the SYSCOM structure. New focus areas and guidance for accomplishing the day will be disseminated.

DON will continue its approach of focussing on the process and using the tenets of Acquisition Reform to accomplish the day. That means that accountability and responsibility for the success of the day are passed down to the lowest practicable level, with ultimately each individual in the acquisition system responsible for making that stand-down a valuable contribution to themselves, their job, and the larger acquisition system.

Navy soliciting AN/UYQ–70(V) Advanced Display System proposals

The AN/UYQ–70(V) is the Navy's newest generation of display and processor systems for use with combat systems requiring state-of-the-art, commercially-based open systems technology. Inaugurated by Congressional direction in FY93, the AN/UYQ–70(V) was approved for production in September 1995 after successful completion of all development and test milestones. The system is designed using industry open standards, non-developmental item (NDI) hardware and software computer resources, and an open systems architecture (OSA) which affords modular enhancement with new technology as operational requirements warrant. Current applications of the AN/UYQ–70(V) include command and control, target acquisition and tracking, weapons control, theater air defense, anti-submarine warfare, battle-group communication, and airborne surveillance and control, as well the display and processor requirements of other Department of Defense programs, civilian agencies, and foreign militaries.

The Navy is currently soliciting proposals from industry for continued systems engineering and manufacturing of AN/UYQ–70(V) systems, with a contract award planned for January 1997. The need for this follow-on contract is in large measure due to the strong market acceptance of the AN/UYQ–70(V) by a wide spectrum of Naval combat systems. A critical requirement to be levied on this contract will be to incorporate new component technology within the AN/UYQ–70(V) OSA, and to introduce manufacturing and design improvements without impact on the physical, system interface, human-machine-interface (HMI), or logistics baseline.

To date, the Navy has applied extensive "acquisition streamlining" and innovative processes toward management of the AN/UYQ–70(V), including use of commercial item descriptions in lieu of military specifications and standards whenever practicable, consolidated contract data requirements to reduce unnecessary reporting and government oversight, implementation of electronic data interchange (EDI) between the industry and the Navy, use of automated logistics products, and Internet availability of technical documentation and specifications. The initial performance specification for the AN/UYQ–70(V) was defined by both government and industry. A technical working group consisting of representatives from the Navy Acquisition Agent and each of the combat system programs to employ the AN/UYQ–70(V) was formed to define operational effectiveness and suitability requirements for the system. Prior to formal solicitation for proposals, a request for information (RFI) was published, requesting comment by industry relative to the government's acquisition strategy for the AN/UYQ–70(V), as well as the applicability of the performance specification to address sophisticated display and processing requirements using NDI/OSA computer resources. This "stakeholder" relationship between government and industry boded well for the AN/UYQ–70(V) Program, as the Navy was able to field systems within two years of the "blueprint" stage at a fraction of the development and recurring cost of the predecessor MILSPEC displays.

The decision to pursue an NDI/OSA solution for the Navy's future display and processor requirements was in part due to the vast availability of state-of-the-art commercial computer resources and the government1s assessment of only moderate risk associated with the design, manufacture and support of AN/UYQ–70(V) systems. Design risk was mitigated via technology demonstrations, which were conducted throughout the government1s interaction with industry, including a feasibility demonstration as part of the source selection process. The Navy has also been amenable to adapting proven industry solutions in the manufacturing and product support arenas, including use of ISO 9000 quality metrics, electronic commerce/EDI to reduce "time-to-market" for products, and integrated electronic technical manuals (IETMs) and just-in-time supply (JITS) constructs for more rapid, cost effective management of deployed systems. The net result of adapting industry solutions to the government marketplace has resulted in a relatively "low risk" solution for future Naval weapon programs employing a distributed combat system architecture.

For the follow-on contract planned for January 1997, the government intends to pursue additions to the current baseline to allow for migration of new display and processor technologies into the family of products. An integral part of the solicitation will be a requirement to define a process for seamless migration of the AN/UYQ–70(V) architecture. As a minimum, this will include:

- A coherent process and plan of action for integration, assembly and test of configurations comprised of AN/UYQ–70(V) baseline components;
- A prospectus for enhancing the baseline architecture to include replacement of existing components with newer, more technologically advanced components;
- A prospectus for extending the performance of the AN/UYQ–70(V), including functional enhancements; and,
- A risk mitigation plan which addresses system level issues relative to product enhancement, including software re-use and component interoperability.

A critical engineering strategy for the AN/UYQ–70(V) is the improve-to-print concept, wherein the government will encourage proposed design changes that enhance the operational effectiveness and suitability of the AN/UYQ–70(V), including those which reduce recurring cost and improve upon current parameters for weight, environmental suitability, reliability and survivability objectives, system support, and functional performance. Industry will be invited to propose enhancements which are transparent to the physical and mechanical structure of the baseline. Specific objectives of the improve-to-print design theme include:

- Achieving reduced recurring and life-cycle support costs for the baseline and new components and AN/UYQ–70(V) configurations. The government will establish objectives for reduced procurement costs for the AN/UYQ–70(V) over the program1s life-cycle. As such, the successful offeror will be encouraged to implement low-cost enhancements to the baseline, with the objective of reducing the recurring and life-cycle cost.
- Incorporate enhancements via the open system architecture which will be transparent to the physical and mechanical structure of the AN/UYQ–70(V) configurations. The AN/UYQ–70(V) configurations have been designed for use with tactical and non-tactical systems. It is the government1s intention to enhance the performance of the AN/UYQ–70(V) while at the same time not allowing any modification to its physical structure, system interfaces, or operation. Under the improve-to-print design theme, offerors will be encouraged to propose changes to existing designs and to propose new configurations which have no impact on:

- Compatibility with existing or deployed AN/UYQ–70(V) configurations.
- Exterior physical dimensions,
- HMI devices
- Hardware or software system interoperability,
- Existing technical documentation, including logistics, maintenance and training manuals and data, and
- Operational effectiveness and suitability parameters, including environmental, reliability or survivability thresholds, or performance benchmarks.

From a cost management vantage, the Navy will invoke special contract clauses to maintain the competitive pricing structure derived from the competitive contract. Herein, any changes to the current baseline will be priced as "marginal cost" items, with no cost growth allowed to the current AN/UYQ–70(V) configurations or their components. Acquisition of new technology will be made at the hardware and software component level, and will be negotiated based upon available, "open market" prices.

It is anticipated that the AN/UYQ–70(V) will increase market share within the current customer base, and with the addition of new Naval, Department of Defense, civilian agency and foreign Navy clients. Through the OSA, the AN/UYQ–70(V) is capable of addressing multiple display and processor requirements. With the commitment to use of NDI/OSA computer resource products along with industry solutions for design, manufacture and support of systems, it is a fair estimation that the AN/UYQ–70(V) will be 3in service2 for many years, and will evolve "lock step" with the Navy1s future requirements for state-of-the-art computer technology. POC for additional information is John Lussier, ARO, (703) 602–0263, Lussier_John_J@asnrdad.acq–ref.navy.mil

Opportunities available to recognize and reward AR personnel

Opportunities exist to recognize and reward individuals, groups, and teams who have made outstanding contributions to Acquisition Reform. The David Packard Excellence in Acquisition Award recognizes those acquisition personnel who have made highly significant contributions which demonstrate exemplary innovation and best acquisition practices; the Defense Acquisition Executive Certificate of Achievement provides personal recognition to those individuals, groups, or teams who have made exceptional contributions to improving life cycle costs and/or the Department's acquisition systems and programs; the Defense Certificate of Recognition for Acquisition is for recognizing outstanding, innovative acquisition practices; and, The DoN Certificate for Acquisition Excellence are awarded to acquisition personnel who have contributed significantly to the implementation of acquisition

reform. Details on these awards, as well as the nomination process, may be found in a September 9, 1996 memorandum posted on the Acquisition Reform Home Page listed under Policy.

Managers are encouraged to take every opportunity to personally facilitate and participate in both formal and informal recognition activities. The DoN applauds and supports every effort in this regard. POC for additional information is Alex Dean-Bennet, ARO, (703) 602–0263, Fax 602–5481, dean_alex@asnrdad.acq–ref.navy.mil

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Correction: The LPD 17 Early Operational Assessment article in the September issue of the Acquisition Reform Update, incorrectly identified LT Michael Smith of COMOPTEVFOR as being with PEO (CLA).

Share your lessons learned. To contribute to the Acquisition Reform Update, call or visit Alex Dean-Bennet, Editor, or Ann Charron, Assistant Editor, at (703) 602–0136, CP#5, room 924, Crystal City, VA, or FAX (703) 602–5481, charron_ann@asnrdad.acq–ref.navy.mil

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